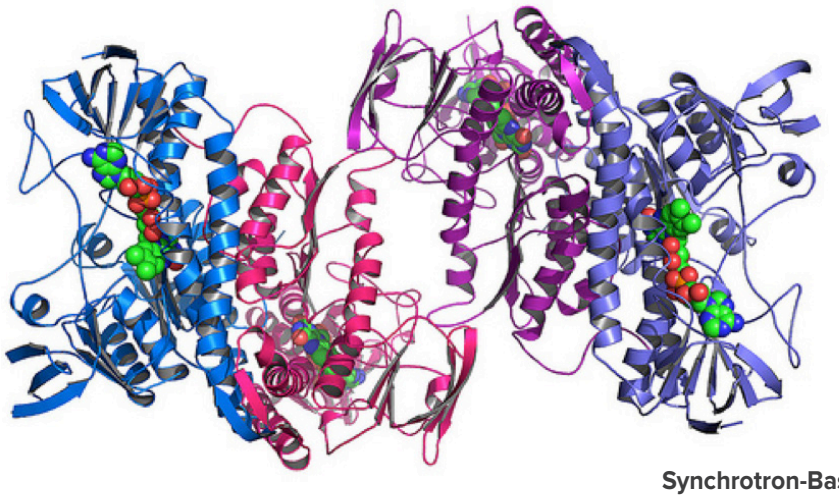
Argonne NATIONAL LABORATORY | Biosciences

Key Facts About the Biosciences Division



Mission

The Biosciences Division conducts multidisciplinary basic research to understand biological mechanisms relevant to bioremediation, climate change, energy production, and the protection of human health.

Through biomolecular research integrated with field research we strive to provide comprehensive analysis of natural processes occurring in a variety of environments.

Range of Research Activities

Structural Biology and Structural Genomics: characterizing protein structure and function using state-of-the-art protein production capabilities together with X-ray diffraction at the Advanced Photon Source and high-throughput function analysis.

Computational Biology: using molecular dynamics and bioinformatics applications to describe biomolecular contributions to subsurface environmental contaminant transformations, terrestrial ecosystem carbon management, and human health and pathology.

Environmental Biology: coupling field studies and laboratory studies to link biomolecular processes with ecosystem observations and geochemical measurements in both subsurface and terrestrial ecosystems.

Molecular and Systems Biology: developing protein engineering and synthetic biology approaches aimed at enhanced functional capabilities for applications such as advanced biofuel production, biomarker detectors, and bioinspired materials.

Synchrotron-Based Geobiology: Developing and using synchrotron-based X-ray absorption, X-ray fluorescence, and X-ray imaging techniques at the Advanced Photon Source to investigate Geobiological systems relevant to subsurface environments and terrestrial ecosystem carbon management.

User Facilities

The Biosciences Division manages one user facility at Argonne's Advanced Photon Source.

Structural Biology Center (SBC) is a U.S. DOE Office of Biological and Environmental Research user facility for macromolecular crystallography by X-ray diffraction. The SBC staff carries out full-scale user support and does research involving data collection and analysis software development and improvements, beamline hardware development and implementation, and crystallographic experiments pertinent to the goals of the SBC user facility. http://www.sbc.anl.gov/

Director: Philippe Noirot
Regular Staff: 46
Postdocs: 4
Students: 1
Joint Appointments / Visitors: 21
URL: www.bio.anl.gov

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